

IN THE CLAIMS:

Please AMEND Claims 5, 9, 13, 15, 19, and 21-23, and ADD claims 24 and 25, as follows:

1. (Previously Presented) An image forming apparatus, comprising:
  - a transfer section for transferring a toner image formed on an image carrier onto a recording material;
  - a transfer voltage applying section for applying a voltage to said transfer section;
  - a transfer current detector for detecting the transfer current flowing through said transfer section;
  - a fixing section for fixing said toner image transferred onto said recording material by said transfer section to fixing position at a predetermined temperature; and
  - a size detector for detecting the size of said recording material;wherein said transfer voltage applying section applies a predetermined transfer voltage, while said recording material passes through said transfer section, so that said transfer current detected by said transfer current detector is kept a predetermined constant current;  
when said predetermined transfer voltage is lower than a threshold voltage and the size of said recording material is larger than a predetermined size, said fixing section fixes said toner image at a temperature which is lower than said predetermined temperature.

2. (Previously Presented) The image forming apparatus as claimed in claim 1, wherein said transfer voltage applying section applies said predetermined transfer voltage to said transfer section before the front end of said recording material has passed said fixing position.

3. (Previously Presented) The image forming apparatus as claimed in claim 1, wherein said transfer voltage applying section applies a constant transfer voltage to said transfer section after said recording material has passed said transfer section until a lapse of a predetermined time.

4. (Original) The image forming apparatus as claimed in claim 1, wherein said transfer voltage applying section applies a first transfer voltage before said recording material passes through said transfer section so that said transfer current detected by said transfer current detector is kept a first constant current,

said transfer voltage applying section applies a second transfer voltage, while said recording material passes through said transfer section, so that said transfer current detected by said transfer current detector is kept a second constant current,

when said first transfer voltage is lower than a first threshold voltage, said second transfer voltage is lower than a second threshold voltage and the size of said recording material is larger than the predetermined size, said fixing section fixes said toner image at a temperature which is lower than said predetermined temperature.

5. (Currently Amended) The image forming apparatus as claimed in claim 1 further comprising:

a memory for storing a temperature which said fixing section fixes said toner image upon completion of the image formation; and

a lapse of time detector for detecting ~~the~~ a lapse of ~~the~~ time from the completion of the image formation;

wherein, if said lapse time detected by said lapse of time detector is lower than a predetermined time upon starting the image formation, said fixing section fixes said toner image at a temperature which is stored in said memory.

6. (Original) The image forming apparatus as claimed in claim 1, wherein, when said predetermined transfer voltage is lower than a threshold voltage and the size of said recording material is larger than the predetermined size, said fixing section fixes said toner image for a recording material conveyed following said recording material which the size is detected by said size detector at a temperature which is lower than said predetermined temperature.

7. (Original) The image forming apparatus as claimed in claim 1, wherein said size detector detects the size of said recording material by detecting the front end and the rear end of said recording material.

8. (Original) The image forming apparatus as claimed in claim 1, wherein said size detector detects the width of the recording material orthogonal to the direction of the transfer thereof.

9. (Currently Amended) An image forming apparatus, comprising:  
a transfer section for transferring a toner image formed on an image carrier onto a recording material;  
a transfer voltage applying section for applying a voltage to said transfer section;  
a transfer current detector for detecting the transfer current flowing through said transfer section;  
a fixing section for fixing said toner image transferred onto said recording material by said transfer section to fixing position at a predetermined temperature;  
~~a size detector for detecting the size of said recording material;~~ and  
a signal receiver for receiving an image data transmitted to ~~the~~ said image forming apparatus from an external apparatus;  
wherein said transfer voltage applying section applies a predetermined transfer voltage, while said recording material passes through said transfer section, so that said transfer current detected by said transfer current detector is kept a predetermined constant current;  
when said predetermined transfer voltage is lower than a threshold voltage based on said size of said recording material and a print rate of said image data received by said

signal receiver, said fixing section fixes said toner image at a temperature which is lower than said predetermined temperature.

10. (Original) The image forming apparatus as claimed in claim 9, wherein said transfer voltage applying section applies said predetermined transfer voltage to said transfer section before the front end of said recording material has passed said fixing position.

11. (Previously Presented) The image forming apparatus as claimed in claim 9, wherein said transfer voltage applying section applies a constant transfer voltage to said transfer section after said recording material has passed said transfer section until a lapse of a predetermined time.

12. (Original) The image forming apparatus as claimed in claim 9, wherein said transfer voltage applying section applies a first transfer voltage before said recording material passes through said transfer section so that said transfer current detected by said transfer current detector is kept a first constant current,

said transfer voltage applying section applies a second transfer voltage, while said recording material passes through said transfer section, so that said transfer current detected by said transfer current detector is kept a second constant current,

when said first transfer voltage is lower than a first threshold voltage and said second transfer voltage is lower than a second threshold voltage based on said size and said print

rate, said fixing section fixes said toner image at a temperature which is lower than said predetermined temperature.

13. (Currently Amended) The image forming apparatus as claimed in claim 9 further comprising:

a memory for storing a temperature which said fixing section fixes said toner image upon completion of the image formation; and

a lapse of time detector for detecting ~~the~~ a lapse of ~~the~~ time from the completion of the image formation;

wherein, if said lapse time detected by said lapse of time detector is lower than a predetermined time upon starting the image formation, said fixing section fixes said toner image at a temperature which is stored in said memory.

14. (Previously Presented) The image forming apparatus as claimed in claim 9, wherein, when said predetermined transfer voltage is lower than a threshold voltage based on said size of said recording material and a print rate of said image data received by said signal receiver, said fixing section fixes said toner image for a recording material conveyed following said recording material which the size is detected by said size detector at a temperature which is lower than said predetermined temperature.

15. (Currently Amended) An image forming apparatus, comprising:

a transfer section for transferring ~~the a~~ toner image formed on an image carrier onto a recording material;

a transfer voltage applying section for applying a voltage to said transfer section;

a transfer current detector for detecting ~~the a~~ transfer current flowing through said transfer section;

a fixing section for fixing said toner image transferred onto said recording material by said transfer section to fixing position at a predetermined temperature;

~~a size detector for detecting the size of said recording material;~~ and

a signal receiver for receiving an image data transmitted to the image forming apparatus from an external apparatus;

wherein said transfer voltage applying section applies a predetermined transfer voltage, while said recording material passes through said transfer section, so that said transfer current detected by said transfer current detector is kept a predetermined constant current;

when said predetermined transfer voltage is larger than a threshold voltage based on said size of said recording material and a print rate of said image data received by said signal receiver, said fixing section fixes said toner image at a temperature which is larger than said predetermined temperature.

16. (Original) The image forming apparatus as claimed in claim 15, wherein said transfer voltage applying section applies said predetermined transfer voltage to said transfer section before the front end of said recording material has passed said fixing position.

17. (Previously Presented) The image forming apparatus as claimed in claim 15, wherein said transfer voltage applying section applies a constant transfer voltage to said transfer section after said recording material has passed said transfer section until a lapse of a predetermined time.

18. (Original) The image forming apparatus as claimed in claim 15, wherein said transfer voltage applying section applies a first transfer voltage before said recording material passes through said transfer section so that said transfer current detected by said transfer current detector is kept a first constant current, said transfer voltage applying section applies a second transfer voltage, while said recording material passes through said transfer section, so that said transfer current detected by said transfer current detector is kept a second constant current, when said first transfer voltage is larger than a first threshold voltage and said second transfer voltage is larger than a second threshold voltage based on said size and said print rate, said fixing section fixes said toner image at a temperature which is larger than said predetermined temperature.

19. (Currently Amended) The image forming apparatus as claimed in claim 15 further comprising:  
a memory for storing a temperature which said fixing section fixes said toner image upon completion of the image formation; and



a lapse of time detector for detecting ~~the~~ a lapse of ~~the~~ time from the completion of the image formation;

wherein, if said lapse time detected by said lapse of time detector is lower than a predetermined time upon starting the image formation, said fixing section fixes said toner image at a temperature which is stored in said memory.

20. (Previously Presented) The image forming apparatus as claimed in claim 15, wherein, when said predetermined transfer voltage is larger than a threshold voltage based on said size of said recording material and a print rate of said image data received by said signal receiver, said fixing section fixes said toner image for a recording material conveyed following said recording material which the size is detected by said size detector at a temperature which is larger than said predetermined temperature.

21. (Currently Amended) An image forming apparatus, comprising:  
a transfer section for transferring a toner image formed on an image carrier onto a recording material;  
a transfer voltage applying section for applying a voltage to said transfer section;  
a transfer current detector for detecting ~~the~~ a transfer current flowing through said transfer section;  
a fixing section for fixing said toner image transferred onto said recording material by said transfer section to fixing position at a predetermined temperature; and

a size detector for detecting the size of said recording material;

wherein said transfer current detector detects a transfer current when said transfer voltage applying section applies a predetermined transfer voltage, while said recording material passes through said transfer section;

when said transfer current is larger than a threshold current and the size of said recording material is larger than a predetermined size, said fixing section fixes said toner image at a temperature which is lower than said predetermined temperature.

22. (Currently Amended) An image forming apparatus, comprising:

a transfer section for transferring a toner image formed on an image carrier onto a recording material;

a transfer voltage applying section for applying a voltage to said transfer section;

a transfer current detector for detecting ~~the~~ a transfer current flowing through said transfer section;

a fixing section for fixing said toner image transferred onto said recording material by said transfer section to fixing position at a predetermined temperature;

~~a size detector for detecting the size of said recording material;~~ and

a signal receiver for receiving an image data transmitted to ~~the~~ said image forming apparatus from an external apparatus;

wherein said transfer current detector detects a transfer current when said transfer voltage applying section applies a predetermined transfer voltage, while said recording material passes through said transfer section;

when said transfer current is larger than a threshold current based on said size of said recording material and a print rate of said image data received by said signal receiver, said fixing section fixes said toner image at a temperature which is lower than said predetermined temperature.

23. (Currently Amended) An image forming apparatus, comprising:

a transfer section for transferring a toner image formed on an image carrier onto a recording material;

a transfer voltage applying section for applying a voltage to said transfer section;

a transfer current detector for detecting ~~the~~ a transfer current flowing through said transfer section;

a fixing section for fixing said toner image transferred onto said recording material by said transfer section to fixing position at a predetermined temperature;

~~a size detector for detecting the size of said recording material; and~~

a signal receiver for receiving an image data transmitted to ~~the~~ said image forming apparatus from an external apparatus;

wherein said transfer current detector detects a transfer current when said transfer voltage applying section applies a predetermined transfer voltage, while said recording material passes through said transfer section;

when said transfer current is lower than a threshold current based on said size of said recording material and a print rate of said image data received by said signal receiver, said fixing section fixes said toner image at a temperature which is larger than said predetermined temperature.

--24. (New) An image forming apparatus, comprising:

a transfer section for transferring a toner image formed on an image carrier onto a recording material;

a transfer voltage applying section for applying a voltage to said transfer section;

a transfer current detector for detecting a transfer current flowing through said transfer section;

a fixing section for fixing said toner image transferred onto said recording material by said transfer section to fixing position at a predetermined temperature;

a size detector for detecting the size of said recording material; and

a controller for controlling said transfer voltage applying section to apply a predetermined transfer voltage based on said transfer current detected by said transfer current detector, while said recording material passes through said transfer section;

wherein said controller controls said fixing section to fix said toner image to said recording material at a temperature which is lower than said predetermined temperature based on said predetermined transfer voltage and the size of said recording material detected by said size detector.

25. (New) The image forming apparatus as claimed in claim 24,

wherein said transfer voltage applying section applies a first transfer voltage based on said transfer current detected by said transfer current detector before said recording material has passed said transfer section;

said transfer voltage applying section applies a second transfer voltage based on said transfer current detected by said transfer current detector, while said recording material passes through said transfer section; and

said controller controls said fixing section to fix said toner image to said recording material at a temperature which is lower than said predetermined temperature based on said first transfer voltage, said second transfer voltage and the size of said recording material detected by said size detector.--